CLAIMS

1. (Amended) An electrical deionization apparatus having deionization compartments, concentration compartments and electrode compartments partitioned from one another by a plurality of ion exchange membranes between a cathode and an anode, wherein in at least one compartment out of the deionization compartments, the concentration compartments and the electrode compartments, at least one of an anion exchange fibrous material and a cation exchange fibrous material is disposed in layers on one another intersecting a water-passing direction.

2. The electrical deionization apparatus according to claim 1, wherein in at least one compartment out of the deionization compartments and the concentration compartments, an anion exchange fibrous material disposed in layers in that compartment and an anion exchange membrane demarcating that compartment are disposed such as to contact one another, and/or the cation exchange fibrous material disposed in layers in that compartment and a cation exchange membrane demarcating that compartment are disposed such as to contact one another.

3. The electrical deionization apparatus according to claim 1, wherein in at least one compartment out of the deionization compartments and the concentration compartments, at least one of the anion exchange fibrous material disposed in layers in that compartment and the cation exchange fibrous material disposed in layers in that

compartment is disposed such as to contact both an anion exchange membrane and a cation exchange membrane demarcating that compartment.

4. The electrical deionization apparatus according to claim 1, wherein in at least one compartment out of the deionization compartments and the concentration compartments, an anion exchange fibrous material is disposed running along the surface of an anion exchange membrane, and/or a cation exchange fibrous material is disposed running along the surface of a cation exchange membrane.

5. (Amended) The electrical deionization apparatus according to any of claims 1 through 4, wherein in at least one compartment out of the deionization compartments and the concentration compartments, the anion exchange fibrous material and the cation exchange fibrous material are disposed alternately in a plurality of layers on one another intersecting the water-passing direction.

6. The electrical deionization apparatus according to any of claims 1 through 5, wherein in a cathode compartment, an anion exchange fibrous material is disposed in layers on one another intersecting the water-passing direction.

7. The electrical deionization apparatus according to claim 6, wherein the anion exchange fibrous material is disposed such as to contact at least one of an anion exchange membrane and a cathode demarcating the cathode compartment.

8. The electrical deionization apparatus according to

claim 6, wherein the anion exchange fibrous material is disposed such as to contact both of an anion exchange membrane and a cathode demarcating the cathode compartment.

9. The electrical deionization apparatus according to claim 6, wherein in the cathode compartment, an anion exchange fibrous material is disposed running along the surface of an anion exchange membrane and/or a cathode demarcating the cathode compartment.

10. The electrical deionization apparatus according to any of claims 1 through 9, wherein each of the anion exchange fibrous material and the cation exchange fibrous material is a woven fabric or nonwoven fabric material.

11. (Amended) The electrical deionization apparatus according to any of claims 1 through 9, wherein at least one of the anion exchange fibrous material and the cation exchange fibrous material is a material obtained by introducing ion exchange groups onto a substrate using radiation-induced graft polymerization.

12. (Amended) An electrical deionization apparatus having deionization compartments, concentration compartments and electrode compartments partitioned from one another by a plurality of ion exchange membranes between a cathode and an anode, wherein, in at least one compartment out of the deionization compartments, the concentration compartments and the electrode compartments, a water-permeable porous material that has been given an ion exchange function is disposed in layers on one another intersecting the direction of flow of passing water.

13. An electrical deionization apparatus having deionization compartments, concentration compartments and electrode compartments partitioned from one another by a plurality of ion exchange membranes between a cathode and an anode, wherein, in at least one compartment out of the deionization compartments, the concentration compartments and the electrode compartments, a pleated ion exchange fibrous material structure formed by placing a long sheet-shaped anion exchange fibrous material and a long sheet-shaped cation exchange fibrous material on one another and folding the resulting structure in accordance with the dimensions of the compartment is packed into the compartment such that surfaces of the pleats intersect a water-passing direction, and moreover the two end sections of the structure contact respectively a cation exchange membrane and an anion exchange membrane demarcating the compartment.

14. An electrical deionization apparatus having deionization compartments, concentration compartments and electrode compartments partitioned from one another by a plurality of ion exchange membranes between a cathode and an anode, wherein, in at least one compartment out of the deionization compartments, the concentration compartments and the electrode compartments, a rolled structure formed by placing a long sheet-shaped anion exchange fibrous material and a long sheet-shaped cation exchange fibrous material on one another and rolling up the resulting structure is packed into the compartment such that the two

end sections of the structure contact respectively a cation exchange membrane and an anion exchange membrane demarcating the compartment.